

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of the Claims:

1. (original) A process for producing a carbonyl compound, comprising allowing water to undergo phase transition to a supercritical or subcritical state in the presence of an alcohol compound to produce/generate water-derived hydrogen and at the same time convert the alcohol compound into a corresponding carbonyl compound.

2. (original) A process for generating water-derived hydrogen, comprising bringing water into a critical state in the presence of a secondary alcohol.

3. (original) The process according to claim 2, wherein the process is carried out by introducing the secondary alcohol in a reaction tube along with water and heating and/or pressurizing the mixture of the alcohol and the water to bring the water into the supercritical state.

4. (original) The process for producing hydrogen according to claim 2 or 3, wherein the phase transition of the water to the supercritical or subcritical state is carried out in an oxygen-free environment.

5. (original) The process for producing hydrogen according to claim 4, wherein the oxygen-free state is established by removing oxygen from the atmosphere in the reaction system.

6. (original) The process for producing hydrogen according to claim 25 4, wherein the oxygen-free state is established by using deoxygenated water.

7. (original) The process for producing hydrogen according to claim 4, wherein the oxygen-free state is established by removing oxygen from the atmosphere in the reaction system while using deoxygenated water.

8. (currently amended) A novel process for producing a carbonyl compound, comprising reacting a primary or secondary alcohol with subcritical or supercritical water to produce/generate water-derived hydrogen and at the same time to convert the alcohol into a carbonyl compound.

9. (original) The process according to claim 8, wherein the process is carried out by introducing the primary or secondary alcohol in a reaction tube along with water and heating and/or pressurizing the mixture of the alcohol and the water to bring the water into the subcritical or supercritical state.

10. (original) The novel process for producing a carbonyl compound according to claim 8 or 9, wherein the reaction of the primary alcohol or the secondary alcohol with the subcritical or supercritical water is carried out in an oxygen-free environment.

11. (original) The novel process for producing a carbonyl compound according to claim 10, wherein the oxygen-free state is established by removing oxygen from the atmosphere in the reaction system.

12. (original) The novel process for producing a carbonyl compound according to claim 10, wherein the oxygen-free state is established by using deoxygenated water as the water to be brought into the subcritical or supercritical state.

13. (original) The novel process for producing a carbonyl compound according to claim 10, wherein the oxygen-free state is established by removing oxygen from the atmosphere in the reaction system while using deoxygenated water as the water to be brought into the subcritical or supercritical state.